

What is claimed is:

1. A packet comprising:  
a compressed header comprising:  
a first value for deriving an uncompressed header for said packet based on a second uncompressed header; and  
a second value for deriving said uncompressed header based on a third uncompressed header,  
where said uncompressed header, said second uncompressed header, and said third uncompressed header are associated with different packets.
2. The packet of claim 1, wherein said first value is computed based on said uncompressed header and said second uncompressed header.
3. The packet of claim 1, wherein said first value corresponds to a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said second uncompressed header.
4. The packet of claim 1, wherein said second value is computed based on said uncompressed header and said third uncompressed header.
5. The packet of claim 1, wherein said second value corresponds to a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said third uncompressed header.
6. The packet of claim 1, wherein said first value and said second value are encoded by at least one of: a variable-length code and a sign-based code.

7. The packet of claim 1, wherein said uncompressed header, said second uncompressed header, and said third uncompressed header include at least one of: an Internet Protocol header, a Transmission Control Protocol header, a User Datagram Protocol header, and a Real-Time Protocol header.
8. The packet of claim 1, wherein said compressed header further comprises:  
at least one of: a destination address, a packet sequence number, and a packet stream identifier number.
9. The packet of claim 1, wherein said compressed header further comprises:  
at least one other value distinct from said first and second values, said at least one other value for deriving said uncompressed header based on at least one other uncompressed header distinct from said second and third uncompressed headers.
10. The packet of claim 1, wherein said packets associated with said second and third uncompressed headers are consecutive headers from a packet stream.
11. A method of communicating data, the method comprising:  
maintaining, at a first network node, at least an uncompressed header;  
maintaining, at a second network node, at least one of a second uncompressed header and a third uncompressed header;  
transmitting, from said first network node, a packet comprising:  
a first value for deriving said uncompressed header based on said second uncompressed header; and  
a second value for deriving said uncompressed header based on said third uncompressed header;  
receiving said packet at said second network node; and

deriving said uncompressed header at said second network node based on said at least one of said second uncompressed header and said third uncompressed header.

12. The method of claim 11, wherein said packet traverses a connection from said first node to said second node that includes no intervening nodes.

13. The method of claim 11, wherein said packet traverses a connection from said first node to said second node that includes at least one intervening node.

14. The method of claim 11, further comprising:  
obtaining said first value by computing a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said second uncompressed header.

15. The method of claim 11, further comprising:  
obtaining said second value by computing a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said third uncompressed header.

16. The method of claim 11, further comprising:  
obtaining at least one other value distinct from said first and second values, said at least one other value for deriving said uncompressed header based on at least one other uncompressed header distinct from said second and third uncompressed headers.

17. The method of claim 11, wherein deriving said uncompressed header at said second node comprises:

if said second uncompressed header is maintained at said second node, deriving said uncompressed header by summing said second uncompressed header and said first value; and

if said third uncompressed header is maintained at said second node, deriving said uncompressed header by summing said third uncompressed header and said second value.

18. A method of communicating data, the method comprising:
  - storing a plurality of transmitted packet headers;
  - providing an uncompressed header to be transmitted;
  - forming a plurality of values by computing, for each of at least two transmitted headers in said plurality of transmitted headers, a corresponding value for deriving said uncompressed header; and
  - transmitting a packet comprising said plurality of values.
19. The method of claim 18, wherein a predetermined number of transmitted packet headers are stored.
20. The method of claim 18, further comprising:
  - replacing one packet header in said plurality of transmitted packet headers with said uncompressed header.
21. The method of claim 18, further comprising:
  - including said uncompressed header in said plurality of transmitted packet headers.
22. A method of communicating data, the method comprising:
  - storing a plurality of packet headers;
  - receiving a packet comprising a plurality of values corresponding to said plurality of packet headers, each of said plurality of values for deriving an uncompressed header; and
  - deriving said uncompressed header based on one of said plurality of values and a corresponding one header in said plurality of packet headers.

23. The method of claim 22, wherein a predetermined number of packet headers are stored.
24. The method of claim 22, further comprising:  
replacing one of said plurality of packet headers with said uncompressed header.
25. The method of claim 22, further comprising:  
including said uncompressed header in said plurality of packet headers.
26. A computer program product embodied on a computer-readable medium for communicating data, the computer program product comprising:  
instructions for causing a processor to:  
store a plurality of transmitted packet headers;  
provide an uncompressed header to be transmitted;  
form a plurality of values by computing, for at least two transmitted headers in said plurality of transmitted headers, a corresponding value for deriving said uncompressed header based on a corresponding one of said at least two transmitted headers; and  
transmit a packet comprising said plurality of values.
27. A computer program product embodied on a computer-readable medium for communicating data, the computer program product comprising:  
instructions for causing a processor to:  
store a plurality of packet headers;  
receive a packet comprising a plurality of values corresponding to said plurality of packet headers, each of said plurality of values for deriving an uncompressed header; and  
derive said uncompressed header based on one of said plurality of values and a corresponding one header in said plurality of packet headers.